

Remarks

Claim 1 is currently amended to recite that a screed capable of flowing comprises: (i) 15% to 75% by weight of a recycled glass waste in the form of an aggregate or of a recycled glass waste sand residue, or a combination thereof; (ii) 15% to 65% of a calcium sulfate powder binder selected from at least one of alpha hemihydrate plaster, beta hemihydrate plaster, anhydrite or a combination of two or more thereof; and (iii) 10% to 20% by weight of water based on the weight of the screed.

The instant application was published on June 19, 2008 as Campbell, US 2008/0141907 A1 (“Campbell”). The current amendment is supported by the specification of Campbell, in particular, [0010]-[0011], [0025], [0029]-[0030], TABLE 1, and Examples 1-8.

Claims 1, 3-7, 11, 14, and 17-18 have been rejected under 35 U.S.C. §103(a) as being obvious over Monawar, US 2003/0041783 (“Monawar”) in view of Ruediger, DE 434207 (“Ruediger”).

Claims 8-10 have been rejected under 35 U.S.C. §103(a) as being obvious over Monawar in view of Ruediger as applied to claims 1, 3-7, 11, 14, and 17-18 above, and further in view of Niel et al., WO 03/045870 (“Niel”)

Claims 12-13, 15-16, and 19-22 have been rejected under 35 U.S.C. §103(a) as being obvious over Monawar in view of Ruediger as applied to claims 1, 3-7, 11, 14, and 17-18 above, and further in view of Cowan, US 5,298,070 (“Cowan”).

In light of the foregoing amendment of claim 1 and the remarks that follow, all of these rejections are respectfully traversed.

Monawar relates to a cementitious composition that comprises cement, glass powder, and calcined kaolin. As was noted in the applicant’s previous response, calcined kaolin, which is a required ingredient of the Monawar composition, is not present in the applicant’s screed composition.

In [0020} of Monawar, it is stated that small particle size is desirable because the resulting high surface area promotes reactions between the cement, glass powder, and calcined kaolin. Preferably, all of the glass powder particles included in the composition should pass through a U.S. Series No. 70 sieve, and about 80-100% of them should pass through a U.S. Series No.100 sieve. As shown in the attached *U.S. Standard Sieve Series* document, 70 mesh and 100 mesh correspond to sieve openings of 210 microns (0.21 mm) and 149 microns (0.15 mm), respectively.

Monawar further describes, at [0049], the preparation of compositions containing waste glass ground into a powder such that 80-100% of the particles pass through a U.S. Series No. 325 sieve, which corresponds to a sieve opening of 44 microns (0.044 mm). The calcined kaolin included in the compositions was also prepared to pass through a No. 325 sieve.

Thus, Monawar teaches compositions that include very small particles, preferably with diameters not exceeding about 0.044 mm, of both waste glass and calcined kaolin. As noted above, the small particle size facilitates the reaction of the glass and kaolin with the cement included in the Monawar composition.

By contrast, the applicant's flowable screed compositions contain no kaolin, and the waste glass is in the form of a recycled glass waste aggregate or a recycled glass waste sand residue. As disclosed in TABLE 1 of Campbell, glass waste aggregate has a particle size in the range of 5 mm to 12 mm, and glass waste sand has a particle size in the range of 0.5 mm to 5 mm.

Consider a particle size of 5 mm, i.e., 500 microns, which represents the maximum size of the glass sand particles and the minimum size of the glass aggregate particles in the applicant's screed. As shown in the attached *U.S. Standard Sieve Series* document, such particles would be unable to pass through a sieve finer than a U.S. Series No. 35 sieve, which has a specified opening of 500 microns. While most of the glass sand particles presumably would be able to pass through the No. 35 sieve, substantially no glass aggregate particles would be able to do so. By contrast, as already noted, substantially all of the glass particles of the Monawar composition are required to pass through a fine No.100 sieve, and preferably through a very fine

No. 325 sieve, to facilitate their reaction with similarly fine particles of kaolin, a required ingredient of the Monawar composition that is lacking in the applicant's screed.

To conclude, there is no suggestion of the screed composition of the instant application in the disclosure of Monawar.

In the §103(a) rejection of claims 1, 3-7, 11, 14, and 17-18, Ruediger is relied on for its disclosure of calcium sulfate in various states of hydration to remedy deficiencies in the teaching of Monawar. As noted in the previous response, the Ruediger hydraulic binder composition contains no particulate glass but does include as an essential component an iron-containing high alumina cement that is not present in applicant's composition.

Ruediger clearly fails to mitigate the serious deficiencies of Monawar with respect to the instant claims 1, 3-7, 11, 14, and 17-18, and the references cannot be properly combined to render obvious the applicant's invention to which these claims are directed. Withdrawal of the §103(a) rejection of these claims as unpatentable over Monawar in view of Ruediger is therefore respectfully requested.

Niel discloses a process for preparing a slag with hydraulic properties as a purported replacement for traditional Portland cement. This reference is cited in the §103(a) rejection of claims 8-10 for its teaching of a hydraulic binder formed from limestone, fly ash, and SiO₂ that may be employed "to practice the cementitious composition of Monawar in view of Ruediger." The deficiencies of these two latter references as they relate to the applicant's screed have already been discussed, and the added disclosure of Niel fails to render obvious the applicant's invention to which claims 8-10 are directed. Withdrawal of the §103(a) rejection of these claims is therefore respectfully requested.

Cowan, which discloses a cement slurry that includes no particulate glass, is relied on for its teaching of specific retarders, accelerators, surfactants, and plasticizers "to practice the cementitious composition of Monawar in view of Ruediger." However the teaching of Cowan fails to remedy the already discussed grave deficiencies of Monawar and Ruediger for rendering obvious the applicant's composition, and the disclosure of Cowan does not correct these deficiencies. Withdrawal of the §103(a) rejection of claims 12-13, 15-16, and 19-22 is therefore

respectfully requested.

Claims 1 and 3-25 remain pending in this application; claims 23-25 have been withdrawn from consideration. In light of the foregoing claim amendments and remarks, prompt allowance of claims 1 and 3-22 is earnestly solicited.

Respectfully submitted,



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Attachment: *U.S. Standard Sieve Series* document

U. S. Standard Sieve Series

Bureau of Standards <u>Sieve Number*</u>	Specified Sieve Opening		Specified Wire Diameter Inches	Tolerances Permitted		
	Inches	Microns		Average Opening	Wire Diameter	Maximum Opening
4	.187	4760	.050	+ - 3%	- 15% to + 30%	10%
5	.157	4000	.044	+ - 3%	- 15% to + 30%	10%
6	.132	3360	.040	+ - 3%	- 15% to + 30%	10%
7	.111	2830	.036	+ - 3%	- 15% to + 30%	10%
8	.0937	2380	.0331	+ - 3%	- 15% to + 30%	10%
10	.0787	2000	.0299	+ - 3%	- 15% to + 30%	10%
12	.0661	1680	.0272	+ - 3%	- 15% to + 30%	10%
14	.0555	1410	.0240	+ - 3%	- 15% to + 30%	10%
16	.0469	1190	.0213	+ - 3%	- 15% to + 30%	10%
18	.0394	1000	.0189	+ - 3%	- 15% to + 30%	10%
20	.0331	840	.0165	+ - 5%	- 15% to + 30%	25%
25	.0280	710	.0146	+ - 5%	- 15% to + 30%	25%
30	.0232	590	.0130	+ - 5%	- 15% to + 30%	25%
35	.0197	500	.0114	+ - 5%	- 15% to + 30%	25%
40	.0165	420	.0098	+ - 5%	- 15% to + 30%	25%

45	.0138	350	.0087	+ - 5%	- 15% to + 30%	25%
50	.0117	297	.0074	+ - 6%	- 15% to + 35%	40%
60	.0098	250	.0064	+ - 6%	- 15% to + 35%	40%
70	.0083	210	.0055	+ - 6%	- 15% to + 35%	40%
80	.0070	177	.0047	+ - 6%	- 15% to + 35%	40%
100	.0059	149	.0040	+ - 6%	- 15% to + 35%	40%
120	.0049	125	.0034	+ - 6%	- 15% to + 35%	40%
140	.0041	105	.0029	+ - 8%	- 15% to + 35%	60%
170	.0035	88	.0025	+ - 8%	- 15% to + 35%	60%
200	.0029	74	.0021	+ - 8%	- 15% to + 35%	60%
230	.0024	63	.0018	+ - 8%	- 15% to + 35%	90%
270	.0021	53	.0016	+ - 8%	- 15% to + 35%	90%
325	.0017	44	.0014	+ - 8%	- 15% to + 35%	90%

* "Sieve Numbers" assigned by the Bureau of Standards are arbitrary designations and do not refer to the number of meshes per inch.